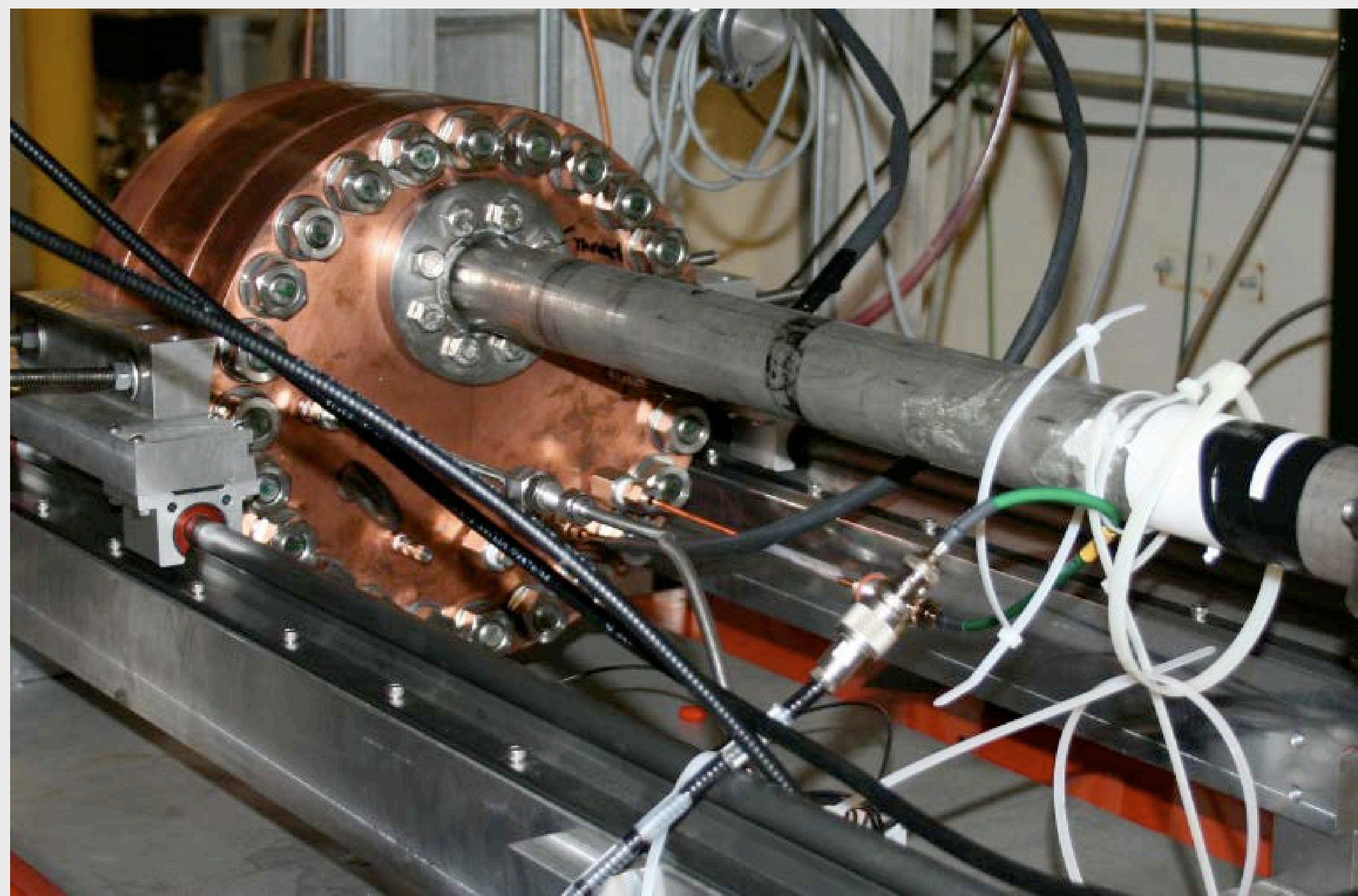
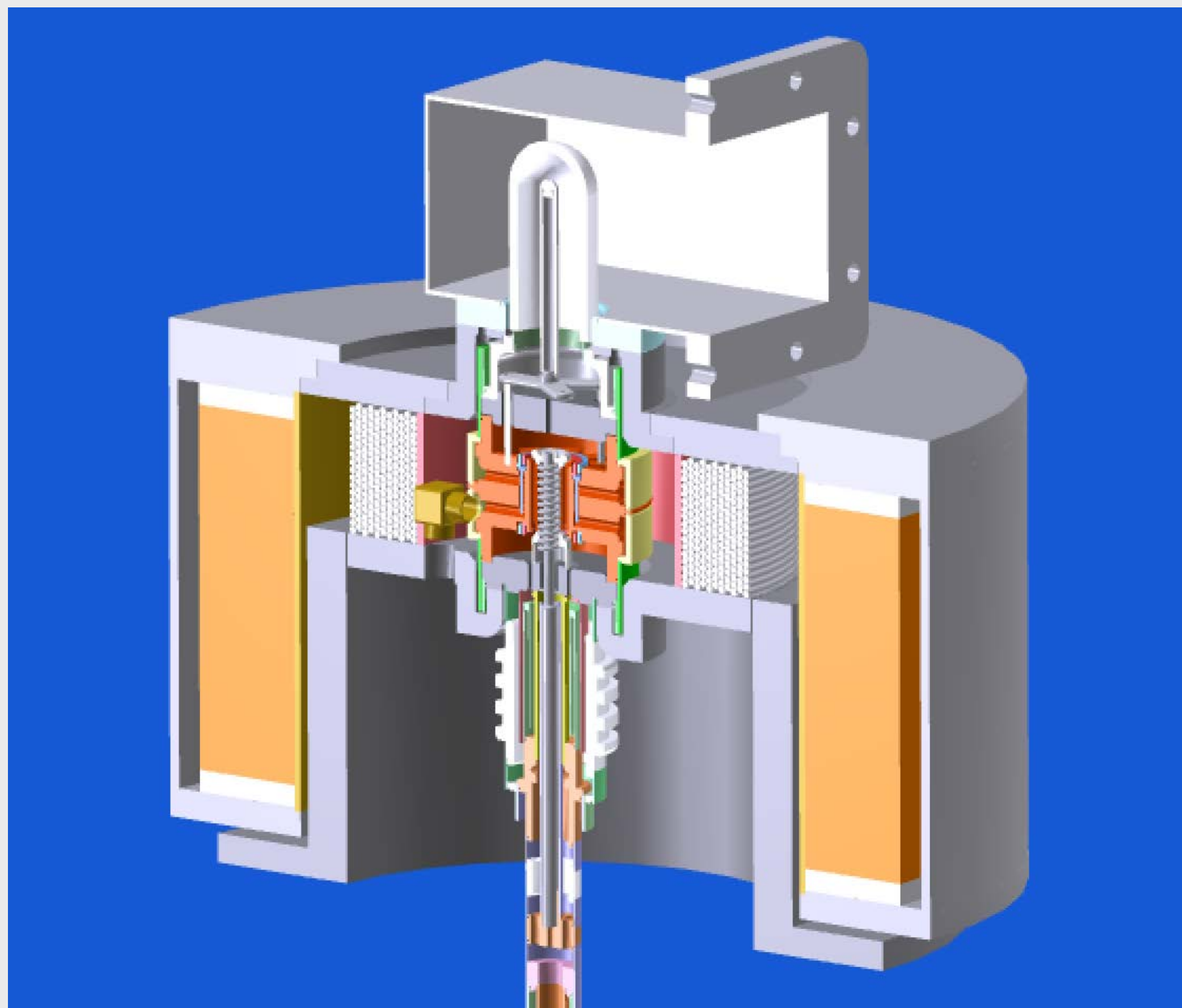


Muons, Inc. – Value Proposition – Particle Accelerator Research and Development through National Lab and University Partnerships

Our product solves customer problems and improves their situation,

Since 2002 Muons, Inc. has led efforts at national laboratories, universities, and other companies to invent and develop particle accelerator systems and components for discovery science, national security, energy, medicine, and the environment.



We deliver specific benefits,

Partnering with national labs and universities with their extraordinary people and facilities, Muons has leveraged its creative talents to provide solutions to many problems of global and national interest.

Muons has received over \$25M in competitive DOE contracts and Small Business Innovation and Technology Transfer Research grants, which have generated intellectual property as well as appreciation for our work in the accelerator community.

Examples of our inventions are included in discovery science (Muon Collider, the next atom smasher), medicine (Energy-Recovery Linacs for commercial production of new radioisotopes for therapy and diagnostics), national security (photon and neutron sources for cargo scanning), energy and environment (GEM*STAR subcritical system for carbon-free energy production) and industry (magnetron power sources for RF cavities).

As a supporter of accelerator science and technology, Muons supports students and post-docs and provides programs which are used by the world-wide accelerator community

Why people should invest in us and not from the competition.

Muons, Inc. is a unique private company that works with the best people in national labs and universities, often using their superb facilities, to invent and develop solutions to problems of global and national importance using particle accelerators. Muons effort is amplified by the billions of dollars invested in our national lab and university partners.



Muons, Inc.

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With a staff of experienced and talented accelerator physicists and engineers, Muons Inc. has expanded from SBIR-STTR funded R&D into other topics of national and global interest, including development, design, and implementation of systems and components for discovery science, national security, medicine, energy, and environment. Muons, Inc. has formed partnerships with national labs including ANL, BNL, Fermilab, JLab, LANL, LBNL, ORNL, PNNL, and SLAC and many universities including U of Chicago, Cornell, FSU, IIT, NCSU, NIU, and ODU, to invent new accelerator concepts and to develop the relevant technology for their realization.

The particular expertise of the Muons, Inc. staff and research partners includes:

- Advanced Technology to achieve National Goals
 - Accelerator-Driven Subcritical Reactors to produce liquid transportation fuels and electrical energy
 - Defense Applications using Muon Beams, Monoenergetic Photon Beams, and Neutron Beams
- Numerical Simulations
 - MuSim interface to GEANT4, MCNP6, MADX, and others in progress
 - Matter-Dominated Beam Lines, Accelerators, and Experiments (G4beamline)
 - Electromagnetic Fields in large, complex SRF structures (using ACE3P from SLAC)
- Superconducting RF Technology
 - Power Couplers and Magnetron Power Sources
 - HOM dampers
- Design of Innovative Muon Cooling Channels and Components
 - Helical Cooling Channels
 - Pressurized RF Cavities and Linacs for Muon Cooling and Acceleration
 - Parametric-resonance Ionization Cooling
- High-Temperature Superconductors
 - High-Field Applications (YBCO and BSCCO) – 40-50 T Solenoids and Helical Solenoids
 - High Radiation Environment Applications
 - Fiber Optic Sensors for Quench Protection and Thermal Processing
- Designs of Discovery Science Machines
 - Energy Frontier: Multi-TeV Muon Collider
 - Intensity Frontier: Neutrino and Higgs Factories and Intense Stopping Muon Beams
- Ion and electron sources
 - H-minus Sources for Pulsed and CW Operation
 - SRF electron gun
 - Photocathodes using Surface Acoustic Waves
- Normal Conducting RF
 - Compact, Tunable RF Cavities
 - RF Breakdown and limitations due to external magnetic fields

Muons, Inc. is very interested in partnerships to commercialize these and other cutting-edge technologies.